Audit of Forest Planning and Practices

The Pas Lumber Company Ltd.

Forest Licence A18171

FPB/ARC/57

July 2003

103-05441/

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Report from the Board

A. Report from the Board

This is the Board's report on a compliance audit of Forest Licence (FL) A18171, held by The Pas Lumber Company Ltd. (The Pas). The operating area for FL 18171 is within the Prince George Timber Supply Area (TSA). Approximately 80 percent lies within the Prince George Forest District, centred on Bear Lake, and 20 percent lies in the Fort St. James Forest District, at Witch Lake (see map on Page C-7).

The Report from the Auditor (Part C) provides further details on the location of the licence, the scope of the audit and the audit findings. The Report from the Auditor is based on the audit procedures described in Part B.[i]

The audit examined The Pas' operational planning; timber harvesting; road construction, maintenance and deactivation; silviculture; and fire protection practices for the period from September 1, 2001, to September 18, 2002.

The Board considered the Report from the Auditor, along with supporting audit evidence and the Board affirms the auditor's findings and opinions. The Pas' forest planning and practices complied with Code requirements in all significant respects.

Although the audit identified some required improvements to The Pas' fire protection equipment, the Board notes the quick action taken by The Pas to address the equipment deficiencies. However, we note that such deficiencies are common among many forestry operators in British Columbia. The Board points out to all licensees in British Columbia that regardless of the quality of their fire preparedness plan, these plans cannot be properly executed if the necessary tools are not functioning or are unavailable on-site.

The Board notes that The Pas' harvesting program is managing spruce bark beetle by targeting infested, damaged and susceptible stands. Ministry of Forests approval of the harvesting plans has resulted in the creation of several large openings greater than 60 hectares. In the Board's opinion, openings greater than 60 hectares that incorporate an appropriate level of structural retention are often appropriate, as they better emulate the size of openings caused by natural disturbances. This can reduce excessive landscape-level fragmentation that would be created from an equivalent volume of harvesting using small cutblocks. However, the audit confirmed that for most of the licence area, no landscape-level analysis had been undertaken to ensure that the increased opening size did not have a negative effect on landscape-level biodiversity values.

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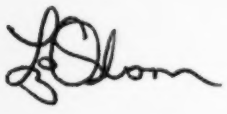
[i] Part B of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

Government has primary responsibility for landscape-level planning, and this absence of objectives is not an issue of non-compliance by The Pas. However, in light of continued beetle outbreaks within the Prince George TSA, and the potential effect of these outbreaks and related management and salvage initiatives on landscape-level biodiversity objectives, the Board believes it will become increasingly important to ensure that landscape-level analysis and planning is undertaken. Accordingly, the Board strongly encourages the government to step forward and conduct landscape-level analysis to establish objectives ensuring that large openings reflect natural disturbance patterns.



Liz Osborn, MRM, MSc
A/Chair, Forest Practices Board

June 25, 2003

Forest Practices Board Compliance Audit Process

B. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders for compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board has the authority to conduct these periodic independent audits under section 176 of the *Forest Practices Code of British Columbia Act* (the Act). Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit examines selected forest practices (e.g., road construction, maintenance and deactivation; timber harvesting; or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. The Board audits agreement-holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's Small Business Forest Enterprise Program (SBFEP), which is administered by Ministry of Forests district offices. Selection of agreement-holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice regulated by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on its scope (limited scope or full scope), the audit period and the staff and resources required to conduct the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified; for example, harvesting or replanting sites and building or deactivating road sections. The items that make up each forest activity are referred to as a "population." For example, all sites harvested form the "timber harvesting population." All road sections constructed form the "road construction population." The populations are then sub-divided based on factors such as characteristics of the sites and potential severity of the consequences of non-compliance on the sites.

For each population, the auditors choose the most efficient means of obtaining information to conclude whether there is compliance with the Code. Because of limited resources, auditors usually rely upon sampling to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from the air using helicopters and intensive ground procedures, such as measuring specific features like road or riparian reserve zone width. The audit teams generally spend one to two weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to determine the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is or has the potential to be significant, and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy and Mines, and Water, Land and Air Protection.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The auditee is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow parties that may potentially be adversely affected to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally decide on written representations, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews the report from the auditor and the representations from parties that may potentially be adversely affected before preparing its final report, which includes the Board's conclusions and, if appropriate, recommendations.

If the Board's conclusions or recommendations result in newly adversely-affected parties or persons, additional offers of representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.

Report from the Auditor

C. Report from the Auditor

1.0 Introduction

As part of the Forest Practices Board's 2002 compliance audit program, Forest Licence (FL) A18171 was selected for audit from the population of major forest licences within the Prince George Forest Region (incorporated into the Northern Interior Forest Region on April 1, 2003). The licence, held by The Pas Lumber Company Ltd. (The Pas), was selected randomly and not on the basis of location or level of performance.

FL A18171 is a volume-based licence, located within the Prince George Timber Supply Area (TSA), and includes operations in both the Prince George and Fort St. James forest districts. The apportioned allowable annual cut (AAC) for the licence is 581,926 cubic metres, with an estimated cut of 580,000 cubic metres harvested during the audit period.

Forest licences do not have specific borders within which activities take place. However, The Pas' operating area is fairly well defined, with approximately 80 percent of the company's operations within the Prince George district and 20 percent in the Fort St. James district. The Prince George operations are centred near the community of Bear Lake, 50 kilometres north of Prince George. The operating area extends north from Summit Lake to Kerry Lake, west to the Nechako Plateau and east into the Rocky Mountain Trench and to the headwaters of the Parsnip River. The Fort St. James operations are centred east of Fort St. James and around Witch Lake (see attached map).

During 1999, operating areas in the Prince George TSA were re-allocated, and operating areas were added to The Pas' licence in the Fort St. James Forest District. Currently, the licence is scattered in four areas of the Fort St. James district and is managed separately from the Prince George operations, on behalf of The Pas, by related company Apollo Forest Products. Continuing obligations from activities conducted in this area before 1999 are generally considered small.

The terrain is generally flat or rolling, with poorly-defined drainages, except for main rivers and creeks, for most of the licence area. East of the Rocky Mountain Trench, terrain is steeper and drainage characteristics more defined. The terrain generally has a low risk for landslides, but in areas of sensitive soils, harvesting is restricted to seasonal periods of cold winter or dry summer conditions.

Forest Health Concerns

Mountain pine beetle infestations in portions of the Prince George TSA are currently at epidemic levels. In May 2002, the chief forester for the province temporarily increased the

AAC by 2.9 million cubic metres above the previous AAC of 9.34 million cubic metres, primarily to harvest infested trees in order to reduce spread of the beetle and to recover otherwise lost timber resources. In the Prince George district, the area of highest mountain pine beetle infestation is south of The Pas' operating area, and there is only minor incidence of mountain pine beetle attack adjacent to the Highway 97 corridor along the southern edge of the operating area. Levels of spruce bark beetle attack in the western area of the Prince George Forest District operating area are considered endemic (low or static). In the Fort St. James district, some areas have high levels of pine beetle infestations. For The Pas' operating area, pine beetle populations are at endemic levels.

Higher Level Plans

Higher level plans[i] that provide direction to The Pas are limited to objectives for 15 recreation sites in the Prince George district. Local resource management plans were approved by government in 1999 for both forest districts, however they have not been declared higher level plans under the Forest Practices Code, so they only provide guidance. Compliance with these plans is not required. Landscape-level planning has not progressed beyond establishing draft landscape unit boundaries.

2.0 Audit Scope

The audit examined the planning and field activities of The Pas in the areas of operational planning (including forest development plans[ii] and silviculture prescriptions[iii]) timber harvesting; road construction, maintenance and deactivation; silviculture; and fire protection. These activities were assessed for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code).

All activities, planning and obligations for the period September 1, 2001, to September 18, 2002, were included in the scope of the audit.

The activities and obligations carried out by The Pas during the audit period, and therefore subject to the audit, were:

- harvesting of 36 cutblocks
- layout and design of 21 road sections totalling 39.9 kilometres
- construction of 69 road sections totalling 85.7 kilometres
- maintenance of approximately 728 kilometres of road, involving activities such as road surfacing and cleaning culverts and ditches
- construction of 2 bridges and maintenance of 36 bridges
- deactivation of approximately 39 kilometres of roads
- site preparation for tree planting on 43 cutblocks and tree planting of 36 cutblocks

- manual brushing on 30 cutblocks, chemical brushing on 46 cutblocks and use of livestock for brushing on 14 cutblocks
- regeneration obligations on 43 cutblocks and free-growing obligations on 6 cutblocks
- fire-protection planning and infrastructure

Licence activities in the audit period were approved under four different forest development plans (FDPs). FDPs that cover the activities subject to the audit were: The Pas' Prince George 2000-2005 FDP (with two major amendments), The Pas' Fort St. James 2000-2005 FDP, Lakeland Mills Ltd.'s 2001-2006 FDP and Apollo Forest Products' 2000-2005 FDP. Both of The Pas' FDPs and the Apollo FDP were due to expire in 2002, but all three FDPs have been granted one-year extensions that expire in 2003. Lakeland Mills Ltd. is another related company, and some of The Pas' operations are included in this FDP. In addition, 31 silviculture prescriptions were approved during the audit period, of which seven had harvesting activity.

Section 3.0 describes the audit of these activities, and the results. The Board's audit reference manual, *Compliance Audit Reference Manual, Version 5.1, May 2002*, sets out the standards and procedures that were used for this audit.

3.0 Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined:

- harvesting of 17 cutblocks
- layout and design of 6 road sections totalling 6.6 kilometres
- construction of 25 road sections totalling 41.7 kilometres
- maintenance of approximately 275 kilometres of road
- deactivation of roads totalling approximately 14 kilometres
- construction of 2 bridges and maintenance of 15 bridges
- site preparation for tree planting on 14 cutblocks and tree planting on 5 cutblocks
- manual brushing on 3 cutblocks, chemical brushing on 6 cutblocks and use of livestock for brushing on 2 cutblocks
- regeneration obligations on 12 cutblocks, and free-growing obligations on 6 cutblocks
- fire-protection plans and infrastructure

Operational planning

Because of the large number of FDPs and associated amendments, the audit adopted a focused sampling approach that involved performing a complete assessment of The Pas' 2000-2005 FDP and amendments in the Prince George Forest District, and a limited review of the other three FDPs for activities in the Fort St. James Forest District. This included ensuring that sufficient information was provided to interested publics, and that major amendments were appropriately approved.

The audit also examined 6 of the 31 silviculture prescriptions approved during the period.

4.0 Findings

The audit found that The Pas was in compliance, in all significant respects, with the Code's planning and practices requirements for operational planning; harvesting; road construction, maintenance and deactivation; silviculture; and fire protection. Those instances of non-compliance that were identified did not indicate a pervasive trend, and were not associated with actual or potential significant harm to persons or the environment.

4.1 Other comments arising from the audit relating to issues that are the responsibility of the auditee

Practices requiring improvement – firefighting tools and equipment

During the audit, four industrial sites were inspected for firefighting tools and equipment. At three of the sites inspected, firefighting tools and equipment were not sufficient to meet the requirements of the Forest Practices Code. The deficiencies included four empty hand pumps, missing hand pumps, lack of shovels and pulaskis, and missing or discharged fire extinguishers. Firefighting tools and equipment are required to be on-site during the fire season, from April 1 to October 30. The Pas quickly addressed these deficiencies. However, it is important to ensure that the company and contractors review firefighting equipment on a regular basis to ensure an adequate amount of operating firefighting equipment is available if required.

4.2 Other comments arising from the audit relating to issues that are not the responsibility of the auditee

Landscape Unit Planning

The Pas' FDPs and amendments are required to be consistent with any higher level plans that apply to the area under the plan and amendments. Higher level plans are defined in the Code as objectives for resource management zones, landscape units, sensitive areas and recreation sites, trails and interpretive forest sites. The Code envisioned identification of forest resources and establishment of the objectives for resource management zones through strategic planning with public involvement. This would then provide direction to FDPs.

The Code has not been fully implemented in the Prince George TSA. At the time of the audit, the only higher level plans in the Prince George TSA were for recreation sites. Objectives for other forest resources, such as biodiversity or habitat for species such as grizzly bear, have not been established because resource management zones and landscape units have not been declared in the Prince George TSA.

The lack of complete information and objectives for forest resources in the Prince George TSA means it was not possible for the audit to determine whether all forest resources are being adequately addressed by The Pas' FDPs and amendments.

Forest Health and Recovery of Damaged Timber

Due to forest health concerns, The Pas was conducting an aggressive spruce bark beetle sanitation and salvage program in their western operating area in the Prince George Forest District. This forest insect has a longer life cycle than the mountain pine beetle (two years versus one year). It is also believed that standing dead spruce will retain its commercial value for a longer period than pine, and therefore has a longer window for recovery. These are mature stands with a dominant spruce component, which is in decline. The endemic populations of spruce bark beetle will continue to be a concern as natural mortality changes species composition, stand structure and potential stand value.

During the audit period, The Pas was granted approval to harvest 11 cutblocks that are larger than 60 hectares, which is the maximum size the Code allows in the Prince George Forest Region. Section 11(3)(b)(1) of the *Operational Planning Regulation* (since renamed the *Operational and Site Planning Regulation*) allows for recovery of timber damaged by fire, insects, wind or other similar events, as long as the cutblocks incorporate structural characteristics of natural disturbances. No direction is provided on upper size limits for these salvage cutblocks, or on the need to consider the temporal and spatial distribution of natural openings.

When the scale of these salvage operations is low, the need for analysis is less important. However, when these salvage cutblocks become the norm or dominate the landscape, the potential impacts to the landscape need to be considered.

Recognizing that the cutblock size limit in the current Code is not consistent with the range of natural disturbance in the Prince George Forest Region, the *Biodiversity Guidebook* and *Landscape Unit Planning Guide* recommend a range of cutblock sizes—some larger than 60 hectares—to maintain biodiversity.

The audit confirmed that biodiversity was addressed at the cutblock level, as required by the legislation. But there was no analysis at the landscape level of the impacts of the increased level of harvesting on biodiversity. At some point, these salvage operations may impact other resource values. Opportunities for setting aside areas for wildlife connectivity or old-growth retention may be lost. This lack of required landscape-level analysis is a gap in the current legislation and has not been addressed in the proposed *Forest and Range Practices Act* (FRPA). The regulations for the new FRPA have not been released at the time of completing this report, so it is not possible to determine whether this issue has been considered in the regulations.

The lack of higher level plans and objectives and the gap in legislation are not considered non-compliance on the part of The Pas.

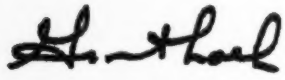
5.0 Audit Opinion

In my opinion, the operational planning; timber harvesting; road construction, maintenance and deactivation; silviculture and fire protection activities of The Pas Lumber Company Ltd. on Forest Licence A18171, from September 1, 2001, to September 18, 2002, were in compliance, in all significant respects, with the requirements of the Code as of September 2002.

Without qualifying my opinion, I draw attention to section 5.0, which explains the anticipated place of higher level plans in the planning regime outlined in the Code. Furthermore, I note the absence of direction in the existing legislation related to the potential impacts of large timber recovery cutblocks on landscape biodiversity.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2 and 3 of this Report from the Auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient operational planning; timber harvesting; silviculture; road construction, maintenance, and deactivation; and fire protection practices to support an overall evaluation of compliance with the Code.



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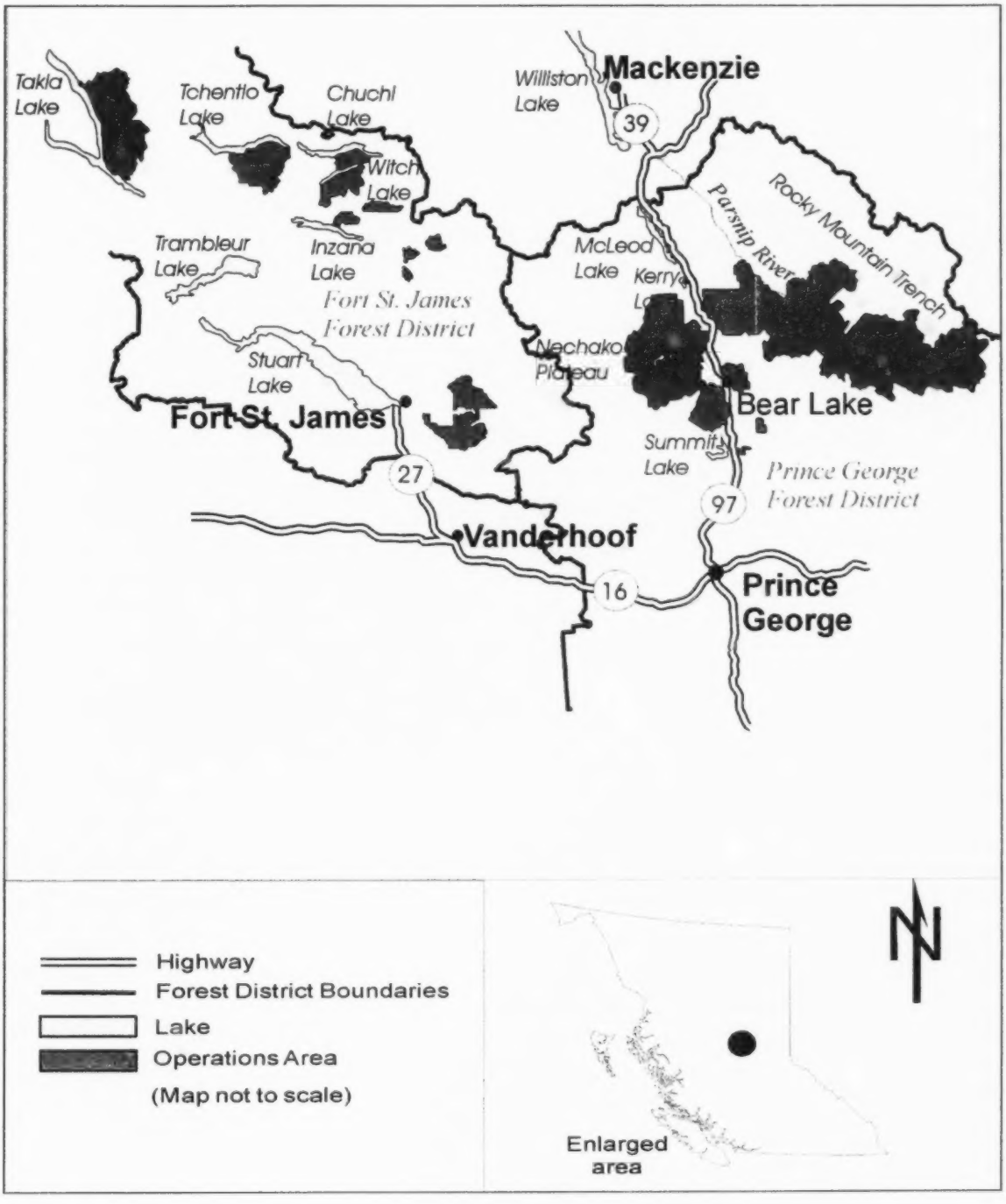
Auditor of Record
Victoria, British Columbia
May 1, 2003

Forest Licence A18171



[i] A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

[ii] A forest development plan is an operational plan which provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources (including water, fisheries, and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.

[iii] A silviculture prescription is a site specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values including biological diversity, and produce a free growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.

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